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The Perspective of Medical Communication on the Biomedical Model of Practice and Patient Centeredness: A Review of the Language of Medical Case Presentation Genre

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ABSTRACT

This paper aimed to review studies offering the description of the language of medical case presentation genre from the standpoint of medical communication depicting the biomedical model of practice and patient centeredness. Evidential studies were searched and retrieved from different sources i.e. “Google search”, “Google scholar”, “Science Direct”, “Wiley Online Library”, “Pubmed”, “SAGE journals”, and “Elsevier publishing” from September, 2014 to September, 2017 using different key words search. First of all, the most relevant studies were reviewed entirely in the review paper. Thereafter, the criticism of patient centeredness on the biomedical model of practices which hamper the ethical dimensions of a patient’s care was presented. The discussion eventually established the more empowered role of patient in the healing process. Besides, this critical review also offered adequate practical implications of the biomedical model of practice based on the studies reviewed. Overall, attempt has been made to unveil the debate of biomedical model of practices and patient-centeredness in the medical communication. Additionally, various communicative functions of the linguistic forms of medical discourse were also reviewed in order to enrich the linguistic knowledge of researchers in the fields of medical education and applied linguistics. The researchers hope that this review paper would not only provide a base line to better understand the debate of biomedical model of practice and patient centeredness but also render the more implicit viewpoints of the medical discourse community inherent in the language of medical case presentation genre. In addition, it might tempt future researchers to come up with measurable evidences reflecting adequacy and inadequacy of the dominant biomedical model of practice and patient centeredness during the healing processes of the disordered biology. Finally, it also offered an open question to be solved whether medical pedagogy should inculcate the biomedical model of practice, or should neutralize and/or substitute it with the one which may empower patients.

1. INTRODUCTION

The medical case presentation is a structured discourse used by medical professionals to communicate information about patients’ condition, its diagnosis and treatment. It provides opportunity for individual and group learning, and it is also used to evaluate medical students and residents (Green et al., 2009). It principally incorporates a ritualized rhetorical format and a “highly conventionalized linguistic rituals, employ a stylized vocabulary and syntax” (Anspach, 1988, p.359). Researchers from various fields for instance, medical educationists (Donnelly, 1986, 1997; Poirier & Brauner, 1988; Monroe et al. 1992) and applied linguists (Lingard, 1998; Lingard & Haber, 1999; Haber & Lingard, 2001; Goodier, 2008; Hung et al., 2012; Murawska, 2013; Chan, 2015; Lysanets et al. 2017) have predominantly investigated the rhetorical structure, conventionalized linguistic rituals, and communicative functions of the linguistic choices especially from patient perspectives, and factors related to socialization of the medical novices. The description of the rhetorical structure of the medical case presentation genre given in the published literature (Lingard, 1998; Wiese et al., 2002; Maddow et al., 2003; Davenport et al., 2008; Goodier, 2008; Helan, 2012; Hung et al., 2012; Dhaliwal & Haure, 2013; Chan, 2015) which is so explicit does not accelerate any serious concerns of researchers and

medical educationists. However, the communicative functions of the linguistic choices employed aboard the medical care on two distinct pools representing biomedical model of practice and patient centeredness. Patient centeredness in umbrella terms refers to trend in medical education which have attempted to redefine the relationship of doctor and patient (Murawska, 2013). Mishler (1984) for the first time comprehensively described the importance of patient centeredness (the voice of the lifeworld) in the healing process. Meanwhile, the issue of patient-centeredness medicine and biomedical model practices is further investigated by other researchers (Donelly, 1986, 1997; Anspach, 1988; Poirier & Brauner, 1988; Monroe et al. 1992; Barry et al. 2001; Helan, 2012; Murawska, 2013; Lysanets et al. 2017) in the fields of medicine and humanities. Hence, the epistemological assumptions of the biomedical model practices inherent in the discursive practices of the specialists in the medical case presentation genre are comprehensively illustrated in the published literature. Most importantly, the more empowered role for a patient was introduced in medical education (Murawska, 2013). In order to address the issue of patient empowerment, a few patient centered models (Donnelly, 2005; Murawska, 2013) were proposed. Additionally, the Radboud university Nijmegen medical center is also applying bio-psychosocial model to teach doctor-patient communication (Pol & Wheel-baumgarten, 2012). However, so far published communication based research does not provide measurable evidences reflecting adequacy and inadequacy of the dominant biomedical model and patient centeredness in order to cure the disordered biology. It is also yet to know whether the patient centeredness approach should adopt for written medical record or it is also necessary for the oral medical discourse as well (Murawska, 2013).

In addition, the conventionalized language of the medical case presentation genre could have numerous communicative functions. Its analysis can unveil "tacit and subtle assumptions, beliefs, and values concerning patients, medical knowledge, and medical practice" (Anspach, 1988, p.359). Occasionally, specialists achieve personal and professional goals by employing linguistic resources in a specific fashion (Bhatia, 2004) in addition to the imparting of information. However, medical doctors presume medical discourse as an "occupational register" used for delivering patient's clinical information "as briefly and as concisely as possible" (Anspach, 1988, p.370). Therefore, they still widely used the biomedical model of practice in hospital practices. The analysis of linguistic features of the genre in question started the debate of biomedical model of practice and patient-centeredness in medical communication. Hence, this paper attempted to describe the phenomenon comprehensively by reviewing the published research on the language of medical case presentation genre.

2.METHODOLOGY

This review paper searched and retrieved studies from different sources i.e. "Google search", "Google scholar", "Science Direct", "Wiley Online Library", "Pubmed", "SAGE journals", and "Elsevier publishing" from September, 2014 to September, 2017 using different key words search such as: case presentation, oral case presentations, written case presentations, case reports, case histories, doctor-patient communication, patient-centered approaches, language of case presentations, linguistic features of case presentation, biomedical language, medical students, physicians-in-training, medical teachers feedback, implicit and implicit learning of medical knowledge. Title and skimmed reading of the relevant articles gradually increased the choices of keyword lists. For the review paper, full reading of the studies was preferred instead of reading only the abstracts. A proper inclusion and exclusion criteria was adopted. By following the inclusion criteria, this paper included published and unpublished research describing the language of medical case presentations genre from the perspective of the biomedical model of practice and patient centeredness medicine. Consequently, only 10 out of the 114 studies met the inclusion criteria. In addition, various studies were also cited for description of the communicative functions of linguistic forms in the genre. The exclusion criteria include Non- English studies and studies that do not analyze the linguistic choices of the genre.

3. REVIEW OF STUDIES

Donnelly (1986) extensively analyzed the language of medical case presentation genre. This study explained how medical practitioners use various slangs (*gomers, crocks, turf,* and *dirtball*), clinical vernacular (*complaints, non-compliant*, and *poor historian*), and certain dehumanized expression. Based on the description, it was argued that such kind of biomedical discourse "ill serve the humanity of patients and their doctors" (Donnelly, 1986, p.87). In addition, the biomedical language used hamper the perceptions and speech about the ailing individual which is equally important for the patient care. Therefore, the researcher suggested to employ such linguistic choices which may empower the patient.

Poirier and Brauner (1988) summarized a few case presentations presented in the interdisciplinary

conferences on geriatrics and gerontology at University of Illinois with intention to discuss the language of medical discourse. It was postulated that medical doctors sacrifice the presence of patients in the genre. In addition, the ethical dimensions of a patient's care are not incorporated while following the traditional format of case presentations. However, the moment medical specialists come out of the genre context, the patient's presence came into consideration in their conversation. Consequently, this study concluded that it is the structure and language of the case presentations which hinder medical doctors to take for granted the presence and ethical dimensions of patients and patients' care.

After a decade, Donnelly (1997) further elaborated the inhumane language of medical case presentation genre. Seven language maladies of case presentations were highlighted such as: 1) a patient is solely introduced as a biological specimen, 2) the patient chief complaint presented in the voice of medicine is translated into the biomedical language, 3) Some special rhetorical and linguistic forms are used for enhancing the credibility of physicians and laboratory data and to cast doubt on the subjective accounts of the patient, 4) The patient understanding of their condition is converted into the onset and clinical course of biological dysfunction in the history of present illness, 5) the narrative of a patient is characterized as "subjective" whereas the observation and clinical knowledge of physicians taken from the patient's physical examination and laboratory data is considered as "objective", 6) patient's thoughts and feelings are pathologized by relating certain expression with patients only i.e. 'denial', 7) and the language of case presentations fails to record and elicit the changes happen in the patient's perspective. This study argued to empower the patient's voice, feeling and understanding of illness. Other than that, the importance of biomedical model inherent in the ritualized language of the genre was also acknowledged. It was suggested that doctor-patient should work like partner in order to fix a biological disorder. Finally, Donnelly (1997) also suggested seven remedies to the seven language maladies of the medical case presentation genre.

Further, Monroe et al. (1992) reviewed the criticism raised on the questionable language of the medical case presentations genre. They highlighted that physicians use various 'deleterious terminology' i.e. slangs (*gomers* and *dirtball* etc.), and some overtly offensive expressions (*the patient is non-complaint*). Medical practitioners change the subjective narrative of patients into objective phenomenon. And the abstract language which is masked as concrete exclude patient as individual. Besides, various limitations of the biomedical discourse were also illustrated. In this essay, they also offered a few recommendations as remedy to the biomedical discourse of hospital practices.

Other than that, Barry et al. (2001) investigated the voice of the lifeworld and the voice of medicine present in the doctor-patient consultations. They applied Habermas's theory of Communicative action and Mishler's (1984) the world of medicine. Four patterns of communication emerged such as: Strictly Medicine, Lifeworld blocked, Lifeworld ignored, and Mutual lifeworld. It was found that some of the doctors negotiate the voice of medicine by considering the voice of the lifeworld in certain occasions. It was also found that most of the patients desire to consider the concerns of the lifeworld. Overall, Barry et al. (2001, p.504) concluded that "if doctors could be sensitized to the importance of dealing with the concerns of the lifeworld with patients with chronical physical conditions as well as psychological conditions, it may be possible to obtain better care for patients".

In addition, Murawska (2013) aimed to examine the discursive construction of patient in medical case reports. The researcher applied Barry et al. (2001) model who offered more fine grained classification of the voices (the voice of the lifeworld and the voice of medicine) in doctor-patient communication. Like Barry et al. (2001), Murawska (2013) also found four patterns of communication in medical case reports such as: Lifeworld, Partial Lifeworld, Lifeworld Transferred, and Strictly Medicine. It was illustrated that Lifeworld is a pattern of communication where doctors narrate the individual experiences of illness instead of the indirect narration of patient's accounts by using first person narration technique. Partial Lifeworld refers to a pattern of communication where doctors preferably narrate the patient's accounts as third person narrator; however, some of the phrases from the patient are also included. It was argued that such kind of instances do not occur in standard case reports. Lifeworld Transfer on the other hand, stands for a pattern where "the patient's perspective is filtered through the doctor's lens" (Murawska, 2013, p.138). Finally, Strictly Medicine is fundamentally a pattern of communication where "diagnostic and treatment procedures are described without reference to the patients" (Murawska, 2013, p. 140). In order to realize this pattern, doctors use impersonal constructions and passive voice. Murawska (2013) also introduced a patient centered model of medical case reports which would facilitate medical doctors to present the process of diagnosis and treatment in more holistic way.

Pol and Wheel-baumgarten (2012) conducted a case study aiming to highlight the challenges in communication during clerkship. The Radboud

university Nijmegen medical center uses bio-psychosocial model for teaching doctor-patient communication. In this case study, it was observed that a student presented a 47 years old male patient having severe abdominal pain to an internist. The patient concerns of having colon cancer and worries were emphasized despite of the fact that the students did not find any symptom contributing to the disease. The internist decided to revisit the patient along with the student. The internist contrary to the student "neither discuss nor acknowledge the patient's worries" (Pol & Wheel-baumgarten, 2012, p.848) and the patient was asked to do the necessary follow-up investigation. Based on the student and internist contrastive viewpoints towards patient's concern, this study argued differences between the communication skills taught at medical schools and the communication skills in practice at hospital setting.

Moreover, Anspach (1988) also explicitly analyzed the language of medical case presentation genre. This study aimed to analyze the linguistic features and their social consequences. The research data was comprised of audio recording of 15 oral case presentations and non-participant observations of almost 50 oral case presentations. Anspach (1988) found that the language of case presentations perform four rhetorical actions such as: 1) depersonalization, 2) omission of the agent, 3) treating medical technology as the agent, 4) and account markers. This study also explicitly identified the linguistic features that realize these rhetorical actions. For instance, it was found that third person pronouns used for the patient and impersonal vocabulary realize depersonalization whereas agentless passive voice and existential omit the agent (medical practitioners). Finally, this paper also established the fact that the ritualized language of case presentations change the patient subjective viewpoint into objective scientific discourse.

Helan (2012) critically analyzed the five rhetorical features of case presentation such as: depersonalization, omission of the agents, treating medical technology as the agent, factive predicators, and non-factive predicators drawing from Anspach's (1988) model. The linguistic features contributing to these specific rhetorical actions were also identified. Helan (2012) argued that the language of case presentations is likely to disadvantage patient, the most vulnerable participants of the discourse. It was further argued that the subjective narrative of patients has no place in the medical discourse. Therefore, patient's narrative is filtered through the voice of medicine. Helan (2012) and Anspach (1988) both explicitly identified linguistic features that disadvantage the vulnerability of a patient in the genre.

Finally, Lysanets et al. (2017) aimed to investigate the lexical and grammatical features of the case presentations genre and their communicative purposes. The research data comprised of 15 medical case reports of a reputed journal published during 2011 to 2016. The most predominant linguistic features of the medical case reports found in the study are simple past tense, passive voice, it constructions and third person pronouns. The communicative purpose of the simple past tense is to narrate the past events of the patient's subjective accounts. In addition, passive voice and it construction are found to use for distancing writer from the text. Finally, Lysanets et al. (2017) also found that the communicative purpose of the third person pronouns is to depersonalize the patient in the medical case report

4. CRITICAL REVIEW

There is a great debate in medical education whether to apply the biomedical model of practice or a more humane and patient-centeredness in health care practices. The criticism of the protagonists of patient centeredness on the ritualized medical discourse practices on the one hand, has established the fact that the biomedical language of medical case presentations is not simply used as a medium to deliver health care information. It is purposeful and not random because the rituals of biomedical language training and day-to-day practices teach trainee-doctors to declare patients as '*complainers, male and female, poor historian,* and *non-complaint'* (Donnelly, 1986, 1997; Poirier & Brauner, 1988). On the other hand, the biomedical model of practice also serves various communicative purposes for the medical discourse community. It has adequate practical implications. Therefore, world view of both the biomedical model of practice and patient-centeredness presented in the selected papers is critically reviewed in order to better understand the perspective of medical communication about the phenomena.

The protagonists of patient centeredness approach argued that medical doctors disadvantage patient, the most vulnerable participant of the discourse by employing various unofficial medical slangs for instance, *Gomers, Crocks, Turf, Buff, Bounce, CTD, Turkeys, brainstem, boxed, Dirtball,* and *Dump* (Donnelly, 1986, 1997; Anspach, 1988; Monroe et al., 1992; Fleischman, 2001). In addition, they frequently use traditional collocation in their everyday conversation for example, *"the trisomy in room 311"*, *"the tonsillectomy in 214"* (Anspach, 1988, p.366), *"the gallbladder in room 204"* (Poirier & Brauner, 1988, p.5) which would humiliate patients. Clinical vernaculars are also often employed in case presentations e.g. *complaint, non-complaint, poor*

historian, in order to biologize patient as *male and female* (Donnelly, 1986, 1997; Monroe et al., 1992; Fleischman, 2001). Other than that, for patient, medical practitioners also use referential lexis including third personal pronouns for example, *patient, he, she,* (Anspach, 1988; Helan, 2012). Besides, excessive use of passive voice, non-factive verbs "*patient 'state', 'report', 'claim', 'complain of", 'admit', and, 'deny'* " (Anspach, 1988, p.369; Helan, 2012), and verbs that put responsibility on patients i.e. *"he dropped his blood pressure*" (Donnelly, 1986, p.87) are also frequently employ to disadvantage the patients. Moreover, these medical slangs, traditional collocations, clinical vernacular, and the precise everyday language of pathology not only depersonalize, down tone, and downgrade patient's account but also "ill serve the humanity of patients and their doctors" (Donnelly, 1986, p.87). Further, physicians actually "doubts the veracity of the patient" in case presentation which is objectionable both medically and morally (Monroe et al. 1992, p.46). For instance, categorizing patients' saying as "subjective" stigmatizes the patient's testimony as untrustworthy as compared to calling physician's findings and laboratory studies 'objective data' which gives an air of infallibility to the quite fallible observations of doctor and laboratory (Donnelly, 1997). It further established the fact that in the biomedical model, "disease counts; the human experience of illness does not" (Donnelly, 1986, p.88) because physicians "treat diseases rather than patients" (Anspach, 1988). As a result, the presence of the patient (Murawska, 2013), the patient actual point of view, and experiences and suffering of the problem are missing. Hence, medical doctors first omit the sick person and then replace it with the voice of biomedical rhetoric (Helan, 2012) which further reduce the complex and often diagnostically important subjective experience of the suffering human being into measureable, scientifically objective report of a case (Anspach, 1988). Poirier and Brauner (1988, p.7) argued that such "accumulated choices effaces the narrator" and abstracts the patient; consequently the kind of text produced "lends an air of anonymity, authority, and absoluteness to the events". Overall, the biomedical model of practice undermined the accounts of patients in result it "dehumanized, objectified, stereotyped, disempowered, and devalued" (Coyle, 1999, p.107) patient as an individual.

However, despite of all these serious criticism of patient centeredness, the typical biomedical model is still preferably used as it has adequate practical implications in hospital practices. The criticism of patient centeredness on the unofficial use of medical slangs (*Gomers, Crocks, Turf, Buff, Bounce, CTD, Turkeys, brainstem, boxed, Dirtball, and Dump*) and traditional collocations (*"the trisomy in room 311" "the tonsillectomy in 214"*and *"the gallbladder in room 204"*) is fair enough and hard to justify. However, the various clinical vernaculars (*male, female, complaint, non-compliance*, and *poor historian*) and other typical linguistic forms used in the biomedical model would not necessarily strategies employed with intention to downgrade and disadvantage the patient. They can serve various other communicative purposes as desired by the medical discourse community. For instance, it might be essential to biologize the patient as *male* and *female* (Donnelly, 1986, 1997) while introducing the patient's profile because human pathology demands different medical intervention for both male and female. Therefore, right at the beginning of a case presentation, it might be crucial for medical doctors to highlight the gender of the patient.

Further, perhaps the most serious criticisms is that, *'non-compliant* or *not compliance to medication*' suggest "an antagonistic relationship between physician and patient and cast the patient as a child or ward and the physician as a domineering parent or sovereign" (Monroe et al., 1992, p.46). But, the busy schedule of medical practices could demand to convey the message in minimum words. Linguistically, the vernaculars *'non-complaint or not compliance'* are the best available lexical choices as they densely represent both the processes of taking medication and patient's attitude towards medication usage. Besides, declaring patient as *'poor historian'* (Donnelly, 1986; Monroe et al. 1992) in the biomedical model for not retelling the patient's clinical history 'as it is', (Poirier & Brauner, 1988) is another criticism of patient centeredness which also seems unjustifiable because medical rituals demand systematic and chronological organization of patient's symptoms. Other than that, medical practitioners need to "sift and weigh all the information" (Donnelly, 1986, p.83) as they are the insiders, the subject specialists who can better evaluate the pertinent positive and pertinent negative history contributing to the chief complaint, and decide what kind of medical intervention is required exactly for curing the disease.

Moreover, patient centeredness also argue that the use of non-factive predicators (*deny, report, state, and describe)* reduces the objectivity and even trustworthiness of the statements given by patients (Helan, 2012, p.140). Consequently, the biomedical model of practice doubt on the subjective history of patient during the treatment of the patient's illness. Additionally, the frequent use of non-factive predicators not only pose question on the credibility of patient' narration but are also used as a resource to distance patients from doctors (Monore et al., 1992,

p.46). However, these claims can be contested because medical schools teach medical students "to distinguish between subjective symptoms, apparent only to the patient, and objective signs, apparent to the expert" (Anspach, 1988, p.369). Besides, medical doctors are taught to follow SOAP (Subjective, Objective, Assessment, and Plan), Weed (1950) system for organizing patient data on progress notes. It would be difficult for medical students to become safe doctors by not abiding to the teaching of medical schools and medical specialists.

In addition, critics supporting patient-centered approach claim that medical doctors' use of certain referential lexis and third personal pronouns anaphoric references depersonalize patient the most vulnerable participants of the discourse (Donnelly, 1986, 1997; Anspach, 1988; Monroe et al., 1992). Once again, alternative interpretations can be presented. For instance, when the voice of the lifeworld (patient) is appropriated into the voice of medicine (Mishler, 1984), it might directly trigger the best available medical intervention. Literally speaking, it is the absolute and carefully ordered nature of the medical case presentation genre that "runs the danger of displacing (or replacing) in a reduced form the unorganized, overwhelming amount of information contained in the very presence of the patient" which usually lead to depersonalization of the poor patient (Poirier & Brauner, 1988, p.5). Other than that, one of the communicative functions of these lexico-grammatical features is to protect the personal information of patients (Lysanets et al. 2017, p.3). The importance of such linguistic choices increases especially when patients carry diseases more prone to face threats like HIV. Above all, personal and emotional detachment from patients would help physicians to merely focus on the biological disorder.

Furthermore, the biomedical model of practice draw attention to the subject of the sentence: a disease or organ, rather than to the patient (Anspach, 1988) is perhaps the most serious criticism which also seems unjustifiable because human experiences and acknowledgment of feelings are not available for bio-scientific scrutiny and analysis as they are not matter of objective fact" (Laing, 1982; Donnelly, 1986). The subjective accounts of patient are actually filtered through biomedical rhetoric, which turned the patient narrative into general scientific facts. Rhetorical resources that turn the patient manifestations into general scientific facts make the medical discourse an objective phenomenon, trustworthy and reliable to both patient and fellow physicians. Moreover, the busy schedule of medicine also constrains medical doctors to follow the formal structure and the biomedical model in order to produce an aphoristic and precise piece of text "merely for the purpose of imparting information as briefly and as concisely as possible" (Anspach, 1988, p.370). Consequently, the biomedical model of practice also restricts personal imagination and judgment of medical doctors in the genre. Thus, other than patients, the presence of medical doctors is also sacrificed in the biomedical model of medicine (Poirier & Brauner, 1988, p.5-6). Meanwhile, when doctors are omitted, it further serves three communicative purposes. First, it makes their statements "unequivocal" and "authoritative" (Anspach, 1988, p.367). Second, it helps presenters to create "objective and scientific style" (Helan, 2012, p.137). Finally, this muting phenomenon of agent in medical practices has practical significance particularly when medical practitioners experience "unfortunate decision about medical management" (Anspach, 1988, p.367).

On top of that, patient centeredness also argued that physicians frequently use passive voice, infrequently use first person pronouns, and seldom name the patient in the biomedical model, consequently the voice and face of the patients become expressionless and the biomedical discourse rapidly turn into businesslike (Poirier & Brauner, 1988). Similarly, it was also illustrated that, the linguistic choices employed in the biomedical model minimize the responsibility of doctors for decision-making and thus protect their face from public scrutiny (Anspach, 1988). This criticism once again would be valid in certain magnitude, however, alternate interpretations available in relevant literature provide strong defense in favor of the biomedical model. For instance, published research (Anspach, 1988; Helan, 2012) postulated that physicians purposely employ these linguistic resources so that various communicative purposes may be achieved such as: claims to knowledge, epistemological assumptions of medical discourse community, professional socialization of novices, and objectification of the information taken from patients. Most importantly, the excessive uses of passive voice, infrequently use of first person pronouns, and seldom name the patient semantically might suit the biomedical model of practice because in health care setting, "what is important is not who performed a certain action but what action was performed" (Helan, 2012, p.136) is more important. Therefore, medical practitioners divorce the action from the doer of the action and most often even omit the complex medical processes. Ultimately, these rhetorical and linguistic devices make the biomedical discourse aphoristic, terse, and precise which exactly match with the busy schedule of the medical discourse community.

Overall, the biomedical model of practice displace, dislocate, de-focalize, background, and/or even delete both doctor and patient, the most vulnerable participants of the healing process because medical practitioners want to foreground the biological disorder and the immediate pathological intervention required for the chief complaint. Consequently, they create a depersonalized and objective academic text which keeps the producer of the text at certain distance; rather often deletes the presence of doctors from case presentation (Caffi, 1999, p.898). Finally, the lexico-grammatical choices of the biomedical model make the medical discourse more authoritative and scientific which are the basic attributes of the text produced by scientists and medical experts (Fleischman, 2001; Helan, 2102). The section below extends some of the other communicative functions of the linguistic features preferably used in the biomedical model of medicine. The basic purpose of reviewing some of the important communicative functions of the linguistic forms of medical discourse is to enrich the linguistic knowledge of the researchers in the fields of medical education and applied linguistics. It might also help them to introduce a model acceptable to both the biomedical model of practice and patient centeredness. The author should clearly explain the important conclusions of the research highlighting its significance and relevance.

5. COMMUNICATIVE FUNCTIONS OF LINGUISTIC FORMS IN THE MEDICAL DISCOURSE

Generally, predominant linguistic forms of the medical case presentation genre are personal pronouns, active voice, passive voice, existential, factive predicators, and non-factive factors. Medical practitioners purposely use these linguistic resources in order to achieve the desired communicative purposes. In the scientific genres, third personal pronouns are usually avoided. However, they are among the predominant linguistic forms of the case presentation genre performing various communicative functions. For instance, one of the communicative functions of third personal pronouns is to separate a patient from the biological disorder (Anspach, 1988; Donnelly, 1997). Third personal pronouns references are also used to protect the personal information of the patient (Lysanets et al., 2017). Besides, the first person plural pronoun *we* perform three important communicative functions in the genre. First, the basic function of using *we* is to keep personal opinions and/or actions of physician at distance from the impersonal laboratory procedures (Gumperz, 1982). Second, "it is a pseudo inclusive *we* (Havertake, 1992), a solidarity *we* that replaces the first person pronoun *I,* and this replacement of personal pronoun strategy avoid the explicit prescription of the doctors "and as well as on the address" (Caffi, 1999, p.898). Finally, the use of *we* emphasizes the impression of "joint authorship" (Aitken & Marshal, 2007).

In addition, passive voice is one of the most frequent grammatical choices of medical doctors which serves various communicative functions. First, use of passive voice (and constructions of impersonal *it)* creates a depersonalized and objective academic text, and keep the producer of the text at certain distance (Lysanets et al., 2017). Second, the use of agentless passive voice in medical context, deletes the presence of doctors (Mattingly, 1998b; Caffi, 1999).Third, it divorces the action from the doer of the action and thus establishes the "effect of muting an allusion to an unfortunate decision about medical management" (Anspach, 1988, p.367). Fourth, passive voice is preferably used when physicians report on "treatment and procedures" (Helan, 2012, p.135). Thus, it minimizes the role of physicians in producing findings and observations because the attention is diverted to the action and the doer of the action and/or decisions that lead to actions are deflected. This function appears more significantly when it is used to report problematic decisions involving life and death consequences. Fifth, passive voice deflect the attention from the culprit even by knowing that the error is committed by a doctor (Anspach, 1988) because it eliminates physicians and their judgment from the medical decision-making. Sixth, doctors deliberately use agentless passive voice while referring to their observations and making "claims to knowledge" (Anspach, 1988, p.367). Finally, use of passive voice (and existential construction i.e. *there is* and *there was*) enhances the academic value of case presentations (Helan, 2012).

Further, there is a clear epistemological hierarchy in medical case presentation genre where findings of the laboratory equipment are most highly valued followed by the observations of physicians and at the end the subjective accounts of patients (Anspach, 1988, p.371). This epistemological hierarchy is achieved by using various linguistic features. For instance, doctors frequently use laboratory equipment as agent at nominal groups followed by some specific action verbs i.e. *show, reveal, report* at verb group. The use of these action verbs in case presentations with laboratory equipment is an advanced grammatical strategy (Lysanets et al. 2017) that serve four important communicative functions. First, they omit the medical practitioners who perform the diagnostic procedures (Anspach, 1988). Second, they omit interpretation of the complex processes of laboratory equipment (Anspach, 1988). Third, uses of these action verbs suggest that information taken from laboratory equipment i.e. *angiograms, stethoscope, CT scan* is obtained through "scientific revelation

rather than by equivocal interpretation" therefore, they are factual (Anspach, 1988, p.368). Finally, use of these verbs put responsibility on the laboratory equipment for data production instead of physicians, and their observations and interpretations (Anspach, 1988).

Finally, medical doctors also frequently employ factive predicators and non-factive predicators in the medical case presentation genre (Helan, 2012). Factive predicators for instance, *note, found, and observe* can be used in active voice with physicians as doer of the action and can also be realized in agentless passive voice. Factive predicators at any place in a clause perform three important communicative functions. First, they make the style of case presentations more authoritative and scientific (Helan, 2102). Second, factive predicators delete and/or separate the observer (doctor) from "what is being observed" or "noted" (Anspach, 1988; Helan, 2012). Last, factive predicators make the information objective and truthful usually related to medical practitioners, scientist, and researchers (Fleischman, 2001; Helan, 2102). Non-factive predicators i.e. *deny, report, state*, and *describe* are used by medical doctors with patients in order to achieve various communicative purposes. For instance, non-factive predicator *deny* is frequently used with patient. Besides, physicians-in-training use *the patient denies* because they want to assure their physicians that the patient was asked about the "potentially related symptoms or habits, but this is hardly a compelling reason to continue a practice that casts the physician as prosecutor and the patient as defendant" (Donnelly, 1997, p.1047). Additionally, non-factive predicators i.e. *denied* and *reported* are used with patients when doctors report patients' social history of smoking, drinking alcohol, and taking drugs (Helan, 2012). Hence, the non-factive predicator, *deny* performs "the self-protective function, however unintentional" (Helan, 2012, p.140). In contrast, when non-factive predicator *describe,* is used with doctors, it casts "doubt on the accuracy of doctors' observations" (Anspach, 1988, p.369). Finally, non-factive predicators *state* and *report* signal that doctors leave the realm of fact and have entered into the realm of the subjective account (Helan, 2012) which in result reduce the objectivity and even trustworthiness of the statements given by patients (Helan, 2012).

6. CONCLUSION

This review paper aimed to review the perspective of biomedical model of practice and patient centeredness in the ritualized language of medical case presentation genre. Additionally, various communicative functions of the linguistic forms of medical discourse were reviewed in order to enrich the linguistic knowledge of researchers in the fields of medical education and applied linguistics. First of all in this review paper, some important studies published on the language of medical case presentation genre were reviewed. Thereafter, a critical review of the study was presented establishing the view point of the patient centeredness and biomedical model of practice. Finally, some typical linguistic forms of medical discourse and their communicative functions were presented.

Hence, the study set out to argue that the ritualized language of case presentations potentially conveys not only the clinical reasoning but also perpetuates the white-coat doctrines and epistemological assumptions practiced in the medical discourse community. In response to the criticism of the patient centeredness, this review also indicated that the biomedical model of practice employ these linguistic resources in order to depersonalize, dehumanize, and down tone patients in addition to the various professional goals achieved at the best interest of health care. Literally speaking, medical slangs, clinical vernaculars and other lexico-grammatical strategies typical used for patients in the biomedical model of practice are "passwords" for novices in the medical world and these ritualized linguistic resources perform a gate keeping function at the threshold of the medical discourse community. Above all, preference of objective over subjective is embedded in the culture of hospital practices because physician's quantifiable data is more factual and scientific whereas patient's narration is unreliable mode of communication (Monroe et al., 1992). Hence, doctors' quest for objectivity may not be compromised. However, medical pedagogy can also find ways to acknowledge the humanitarian values of both patients and doctors (Monroe et al., 1992). The socio-psychological aspects are as important as the physical examination of patients' bodies to diagnose the biomedical disorders. But unfortunately, the introduction of the modern laboratory equipments in addition to the biomedical model of the practice, also limited the more empower role of a patients which have ability to test even the smallest body parts, in result, they widened the gap between the patient and their body and a doctor and patient (Murawska, 2013). The struggle between the biomedical model of practice and the patient centeredness eventually suppressed the meaningful accounts of patients which can impede the health care practices. Patients should be engaged in the fixing process. It would give the impression that doctors are more concerned to human sufferings than the experience of illnesses. The researcher hopes that this review would help to understand the more implicit view point of the biomedical model of practice and

patient centeredness in the medical discourse community inherent in the language of medical case presentation genre. It would also establish a base line in order to conduct an empirical research analyzing adequacy and inadequacy of both the biomedical model of practice and patient centeredness in hospital setting. Finally, this review paper would further open the discussion for future researchers whether to inculcate the biomedical model of practice or the patient centeredness which may empower patient as an individual.

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